REMARKS

The Office Action dated August 6, 2008, has been received and the following remarks form a full and complete response thereto. Claims 1-18 are pending in this application and are submitted for re-consideration.

Claims 1-13 and 15-17 were rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 5,711,304 to Dower ("Dower") in view of U.S. Patent No. 5,377,687 to Evans et al. ("Evans"). Applicants traverse the rejection on the basis that claims 1-13 and 15-17 recite subject matter neither disclosed nor suggested by the combination of Dower and Evans.

Independent claim 1 recites an ECG system for large-surface recording of ECG signals. The system is characterized by a first measuring means for generating a first measured data record that includes at least one reading of cardiac currents. The measuring means also includes at least one lead site of the first measuring means which is variable during the recording of the large-surface ECG signals. The system also includes a second measuring means for simultaneously generating a second measured data that includes at least one reading of the cardiac currents. The lead site of the second measuring means is spatially invariable during the recording of the large surface ECG signals in order to obtain continuous measurement results. The system also includes a data processing system that has a means for synchronizing at least two signals, determined in a temporally offset fashion, of the first measured data record with at least one continuously detected signal of the second measured data record.

Independent claim 17 recites a method for large-surface recording of ECG signals. The method is characterized by recording at least one first measurement of the cardiac currents with the aid of a first measuring means. At least one lead site of a first measuring means is varied during the recording of the large-surface ECG signals. Simultaneously with the recording of the

first measurement, a second measurement of the cardiac currents is recorded with the aid of a second measuring means. The lead site of the second measuring means is spatially invariable during the recording of the large-surface ECG signals for the purpose of continuous measurement. The first and second measuring means generate a first measured data record and a second measured data record and at least two signals of the cardiac currents of the first measured data, which are determined in a temporally offset fashion. The signals of the first measured data are automatically synchronized in a data processing system with at least one continuously determined signal of the second measured data record of cardiac currents.

Dower discloses a signal processing apparatus for use with an electrocardiograph monitoring activity of the human heart. *See* Dower at col. 4, lines 12-13. The apparatus receives inputs from a number of electrodes positioned on the body. *See* Dower at col. 5, lines 53-55; FIG. 1. The signal from the electrodes is input to the apparatus with an amplifier unit with an input 10. *See* Dower at col. 5, lines 1-13.

Evans discloses a system for monitoring a first set of electrical signals received from a patient from fewer than 20 electrodes and analyzing the first set of electrical signals to obtain information that is conventionally available from a second set of electrical signals collected from a greater number of signals. *See* Evans at col. 7, lines 18-30. The electrodes are arranged on the thorax area and the limbs. *See* Evans at FIG. 1. The system includes an electrode cable set 14 consisting of a four-electrode limb set 18 and a six-electrode precordial set 20. The body surface mapping (BSM) preformed by the system 10 is accomplished with fewer electrodes than previously deemed possible because the BSM can be calculated with the aid of linear transformation.

Claim 1 is patentable over Dower because Dower fails to disclose or suggest each and

every feature of claim 1. For instance, Dower fails to disclose measuring means "for generating a first measured data record," as claim 1 requires. Instead, the input amplifier unit (illustrated in Dower as a female contact/connecter) does not perform any measurement analysis; it merely amplifies the input signal. Thus, Dower fails to disclose this feature of claim 1.

Dower also fails to disclose a means for synchronizing at least two signals, determined in a temporally offset fashion, of the first measured data record with at least one continuously detected signal of the second measure data record, as claim 1 requires. Dower provides a system and method allowing for transferring un-synthesized signals from one of the chest electrodes to the synthesized signals that correspond to the chest lead signals. *See* Dower at col. 4, lines 25-27. Such a data transfer or extrapolation does not require a signal-synchronization since the originally measured un-synthesized signals are taken at the same time point. Thus, Dower does not disclose or suggest synchronization of discontinuously obtained signals with continuously obtained signals, as claim 1 requires. For this additional reason, claim 1 is patentable over Dower.

Evans fails to remedy the above-noted deficiencies of Dower with respect to claim 1. Evans, which the Office cites to remedy Dower's failure to determine two signals in a temporally offset fashion, possesses the same deficiencies identified above in Dower. For instance, like Dower, Evans fails to disclose or suggest a measuring means for generating a first measured data record, as required by claim 1. Additionally, Evans fails to disclose or suggest a means for synchronizing at least two signals determined in a temporally offset fashion of the first measured data record with at least one continuously detected signal of the second measured data record, as required by claim 1. Indeed, because Evans approximates BSM with the aid of linear transformation, subsequent synchronization is not required.

Thus, the combination of Dower and Evans fails to disclose or suggest each and every element of claim 1. Applicants, therefore, respectfully request withdrawal of the rejection of claim 1 and its dependent claims 2-13 and 15-16.

Similarly to claim 1, claim 17 recites a method for large-surface recording of ECG signals that includes the step of generating a first measured data record and a second measured data record. As stated above with respect to claim 1, both Dower and Evans fail to disclose this feature. Additionally, Dower and Evans fail to disclose the step of synchronizing the first measured data record with at least one continuously determined signal of the second measured data record. Thus, the combination of Dower and Evans fails to disclose or suggest each and every element of claim 17. Applicants, therefore, respectfully request withdrawal of the rejection of claim 17 and its dependent claim 18.

The Office rejected claim 14 under 35 U.S.C. § 103(a) as unpatentable over Dower and Evans in view of U.S. Patent No. 4,608,987 to Mills ("Mills"). Applicants traverse the rejection on the basis that claim 14 recites subject matter neither disclosed nor suggested by the combination of Dower, Evans, and Mills. For instance, claim 14, which depends from claim 1, is patentable over the combination of Dower and Evans for at least the same reasons stated above with respect to claim 1. Mills, which the Office cited for its disclosure of attaching electrodes to a patient's chest using a vest, fails to remedy the deficiencies of Dower and Evans with respect to claim 14. Applicants, therefore, respectfully request withdrawal of the rejection of claim 14.

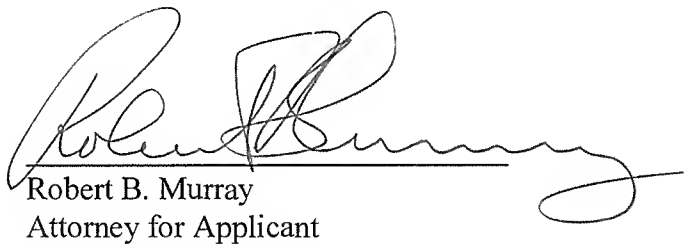
CONCLUSION

In view of the above, all objections and rejections have been sufficiently addressed. Applicants submit that the application is now in condition for allowance and request that claims 1-18 be allowed and this application passed to issue.

In the event that this paper is not timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account No. 02-2135.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

Respectfully submitted,

By: 

Robert B. Murray
Attorney for Applicant
Registration No. 22,980
ROTHWELL, FIGG, ERNST & MANBECK
1425 K. Street, Suite 800
Washington, D.C. 20005
Telephone: (202) 783-6040